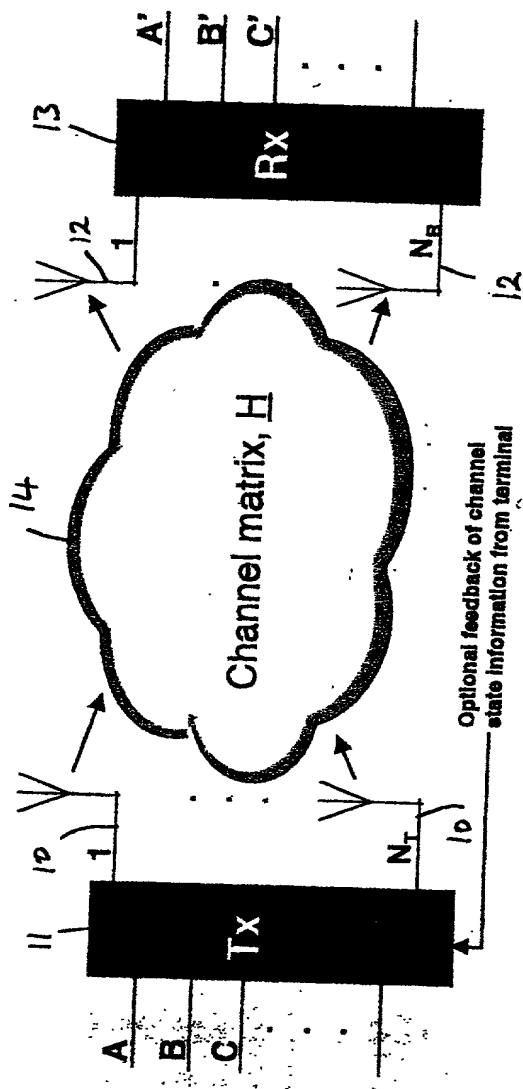


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#3



PRIOR ART

FIGURE 1

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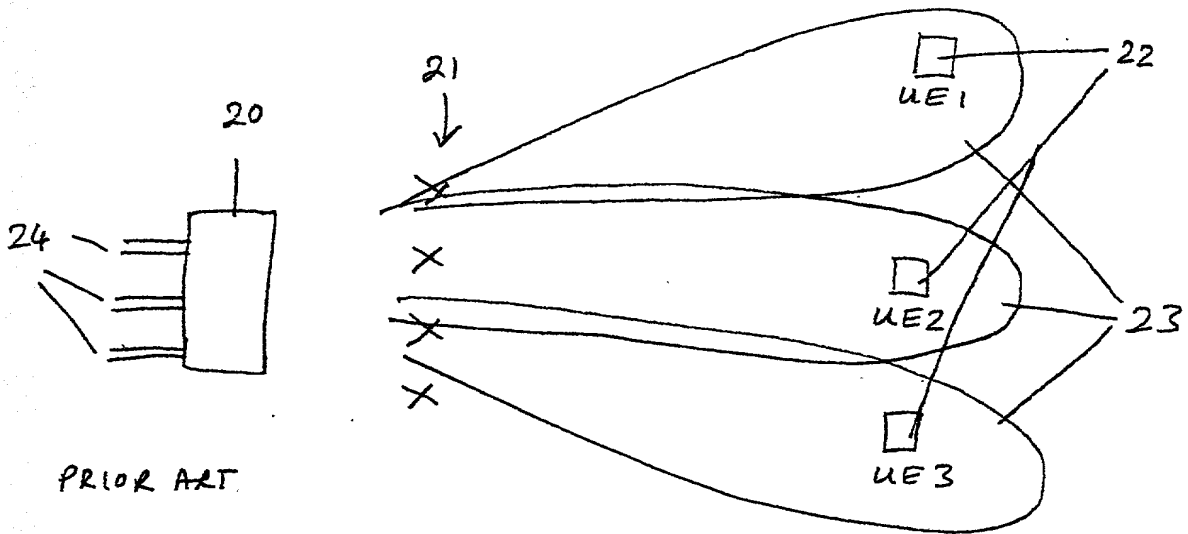


FIGURE 2

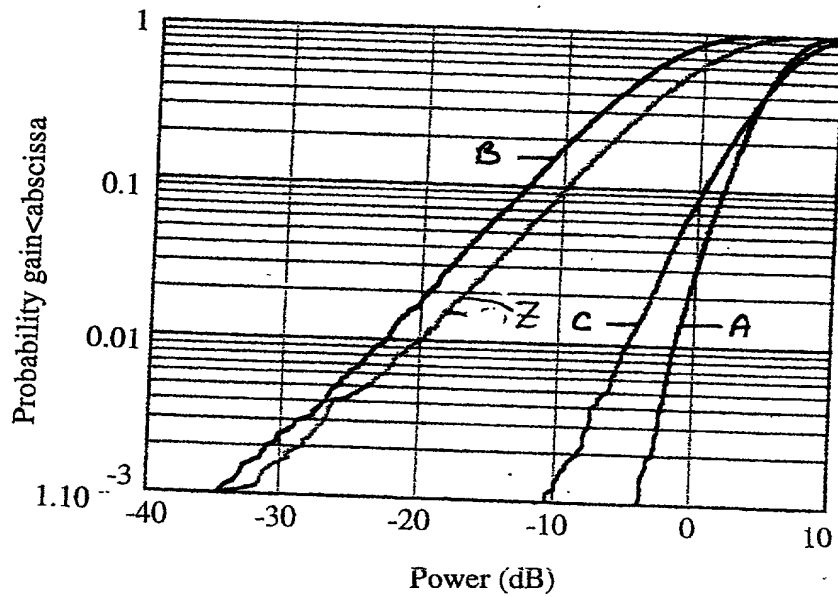
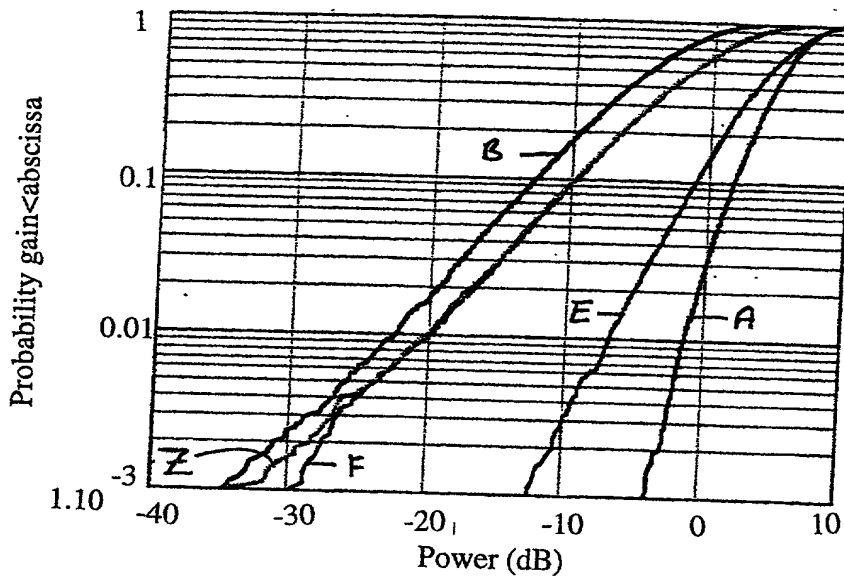


Figure 3

- A Max channel, no correlation
- B Min channel, no correlation
- C Max channel, complete correlation
- D Min channel, complete correlation (not present)
- Z Baseline 1:1

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- A Max channel, polarisation diversity, full polarisation conversion
- B Min channel, polarisation diversity, full polarisation conversion
- E Max channel, pol'n diversity, no polarisation conversion
- F Min channel, pol'n diversity, no polarisation conversion
- Z Baseline 1:1

Figure 4

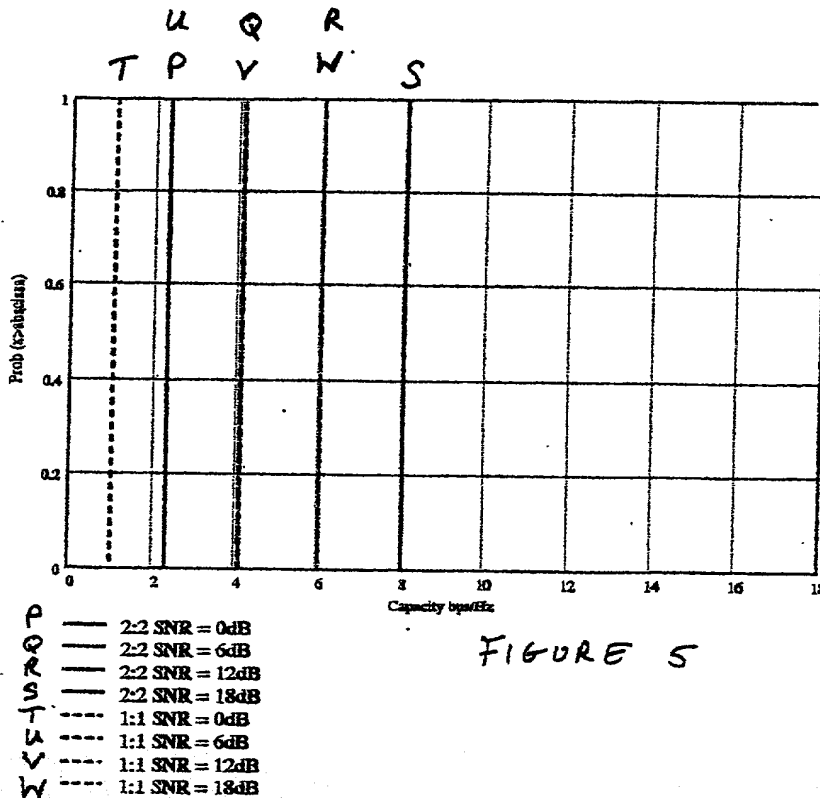


FIGURE 5

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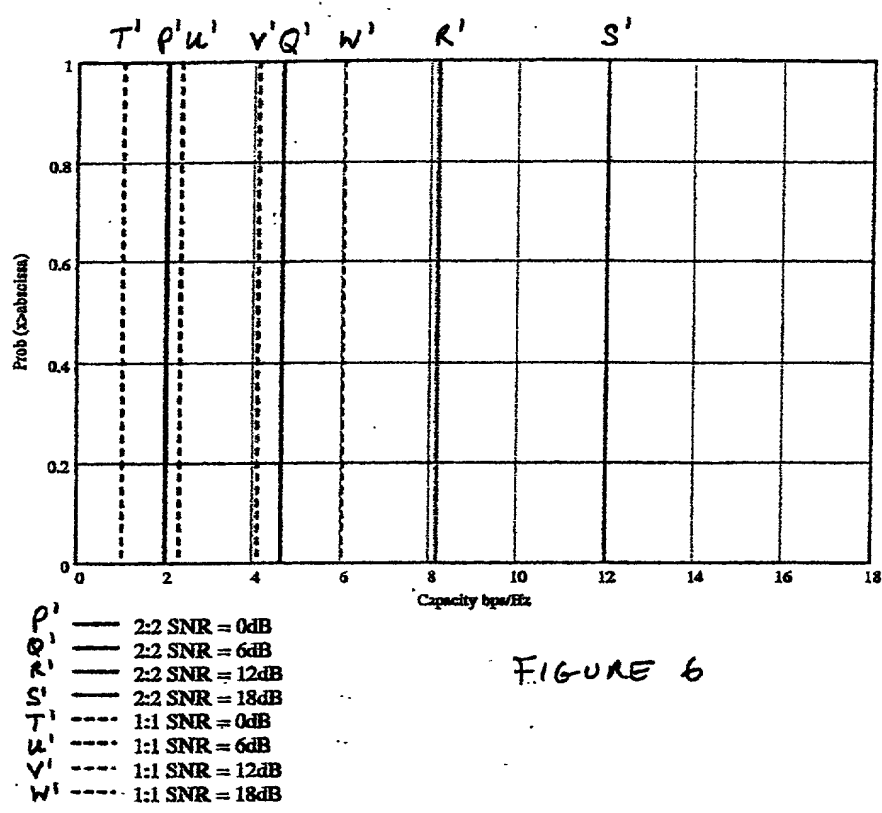


FIGURE 6

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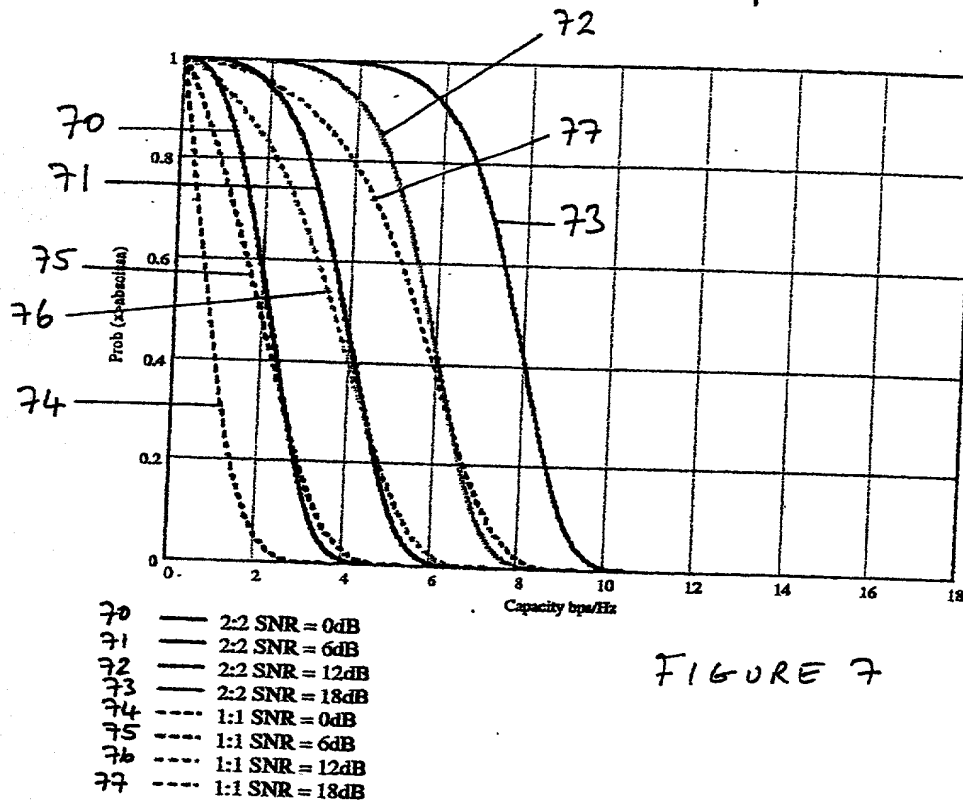


FIGURE 7

Figure 7 - Capacity for 2:2 space diversity MIMO system with the basestation antennas (transmitter) completely correlated and the mobile completely uncorrelated.

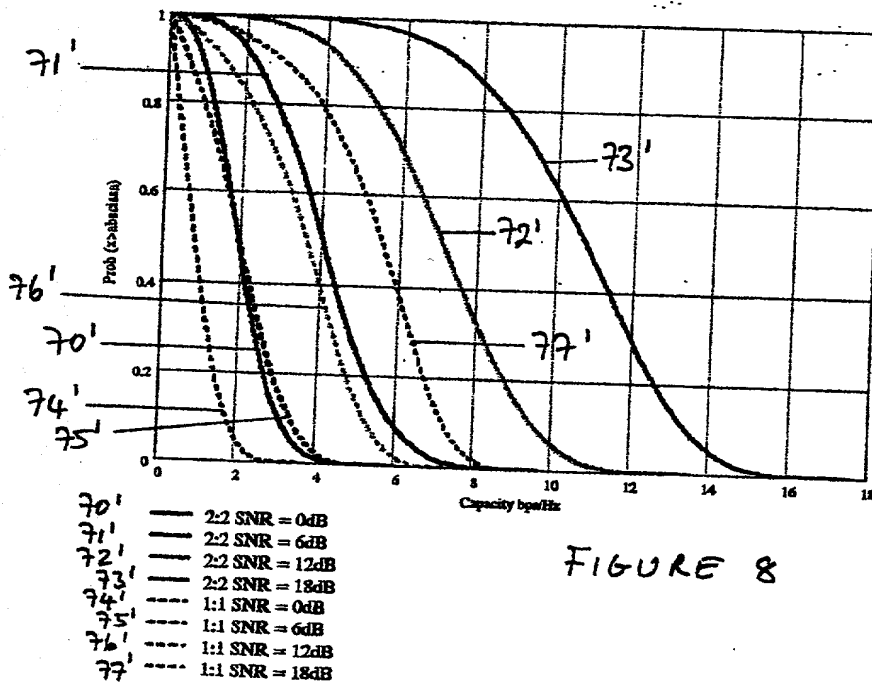


FIGURE 8

Figure 8 - Capacity for 2:2 polarisation diversity MIMO with no polarisation conversion in the environment

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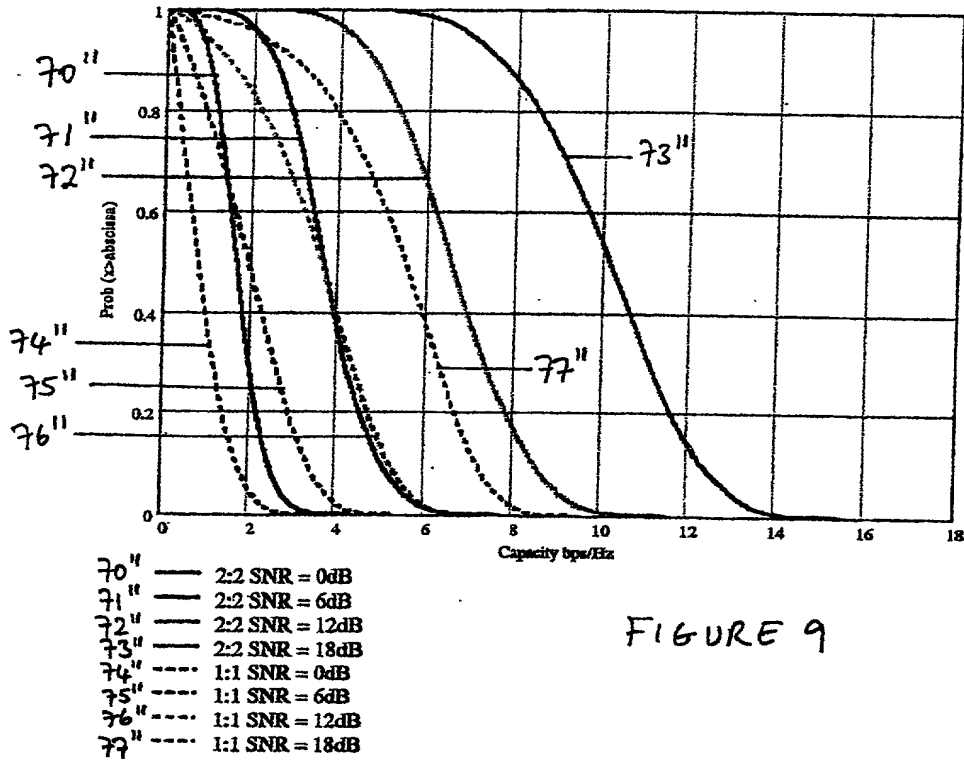


FIGURE 9

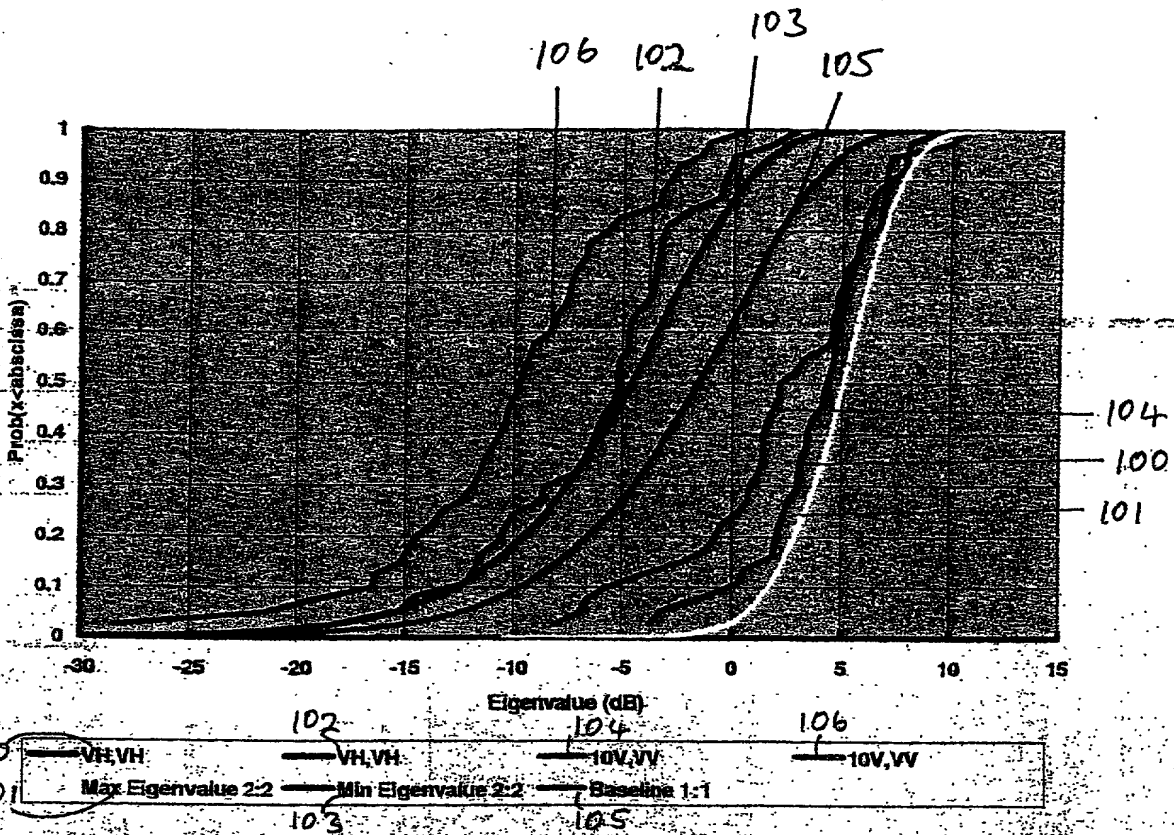


Figure 0-10 — Measured distributions for the power gains for the orthogonal MIMO paths for 2:2 space and polarisation diversity configurations.

FIGURE 10.

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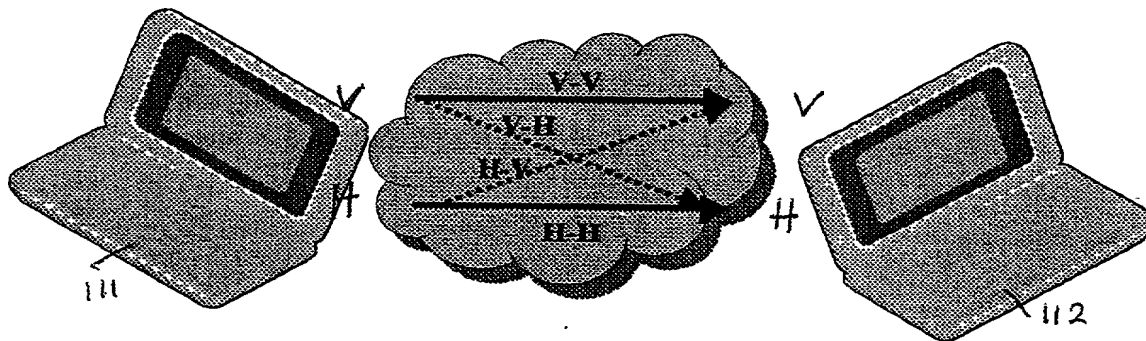


FIGURE 11

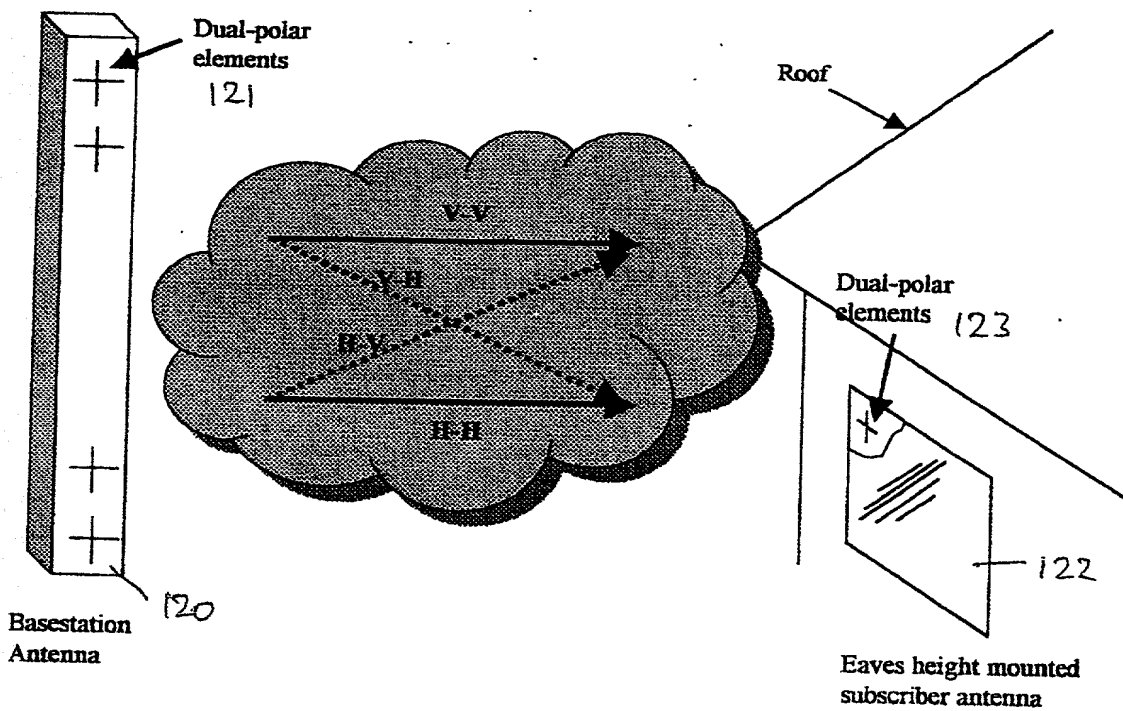


FIGURE 12

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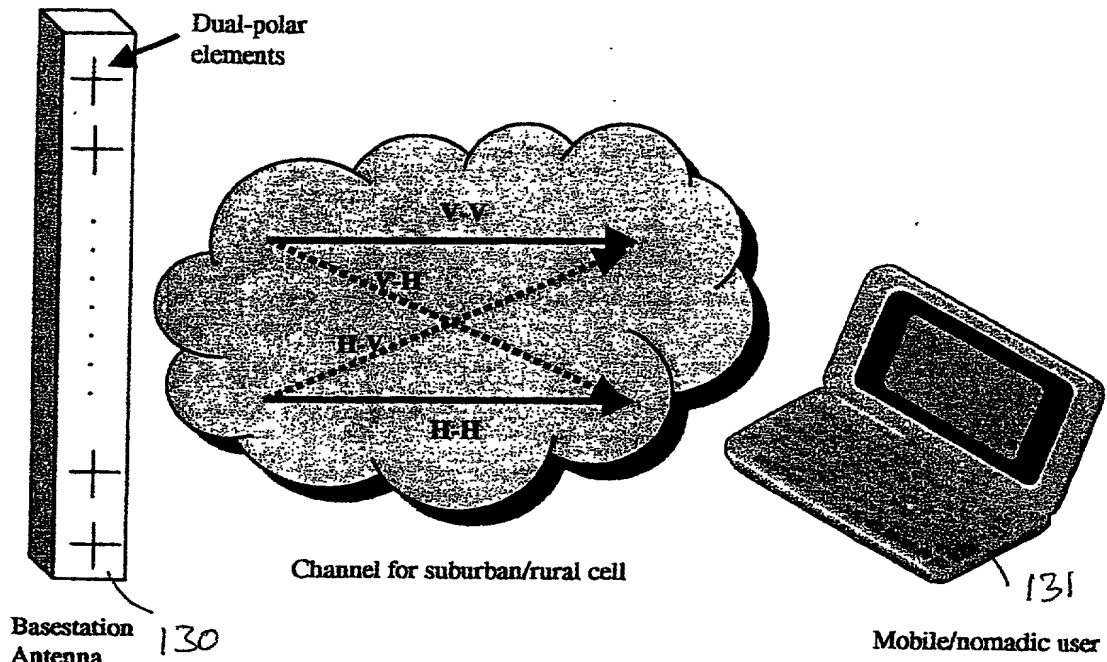


FIGURE 13

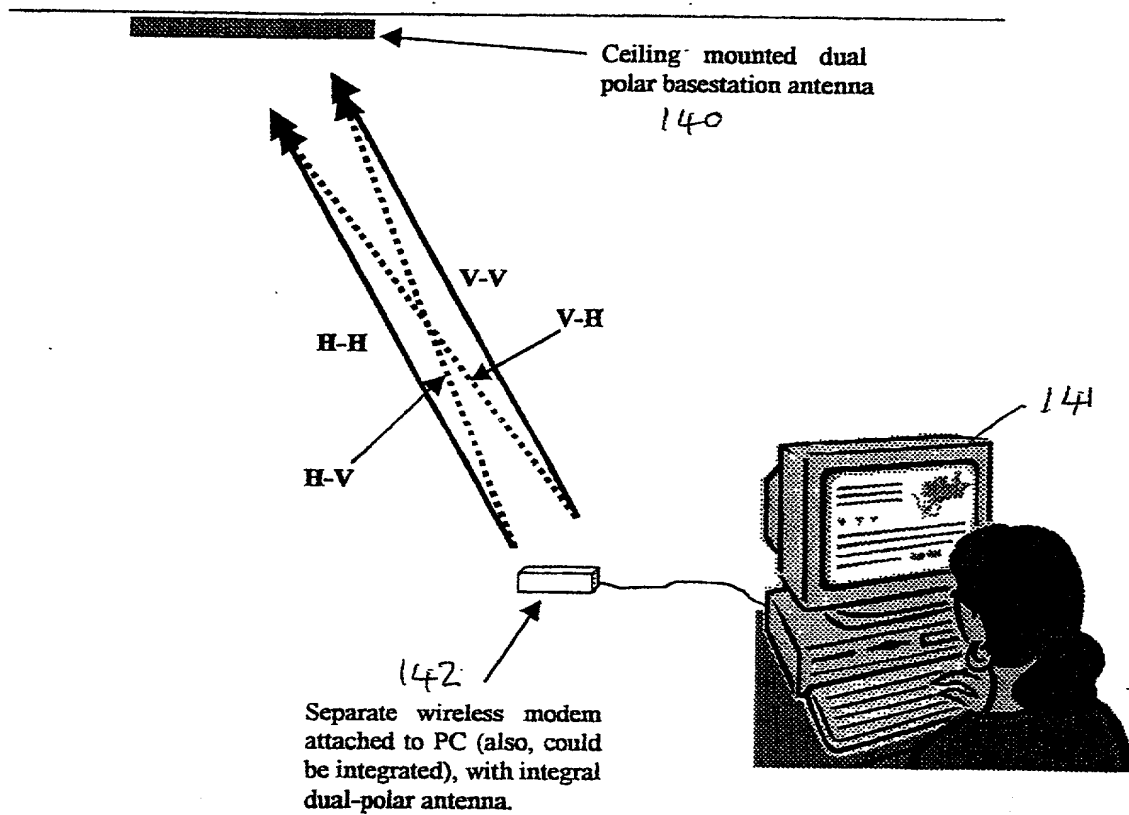


FIGURE 14

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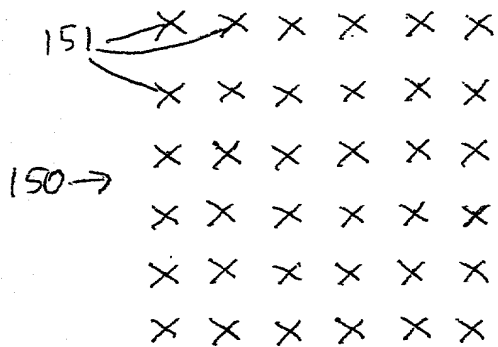
[illegible]

Fig 15 A

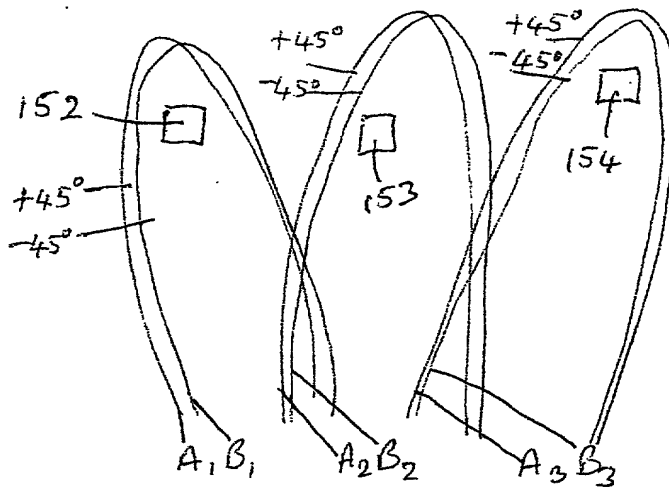


Fig 15B

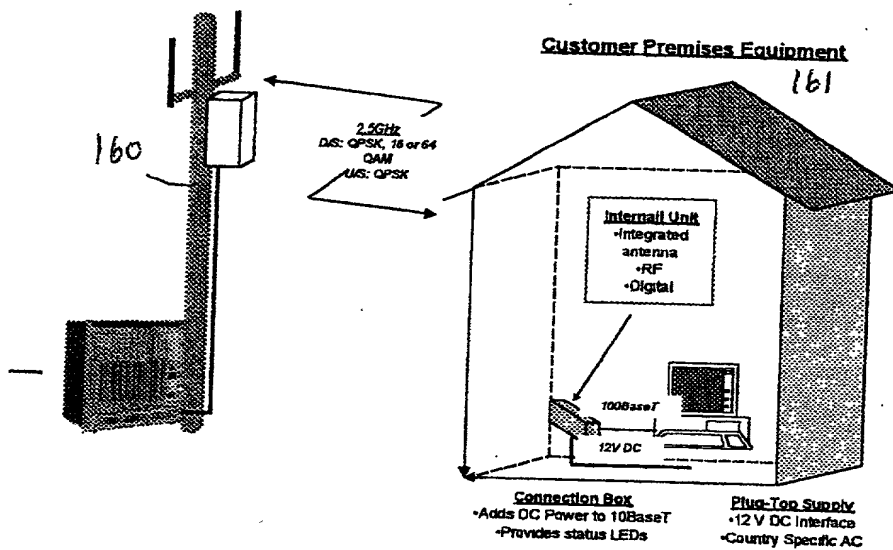


FIGURE 16

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BTS RF Architecture
(Single channel - 3 beams/sector)

3 beams/sector with RF
beamformer and 2-branch Tx
MIMO - with soft redundancy

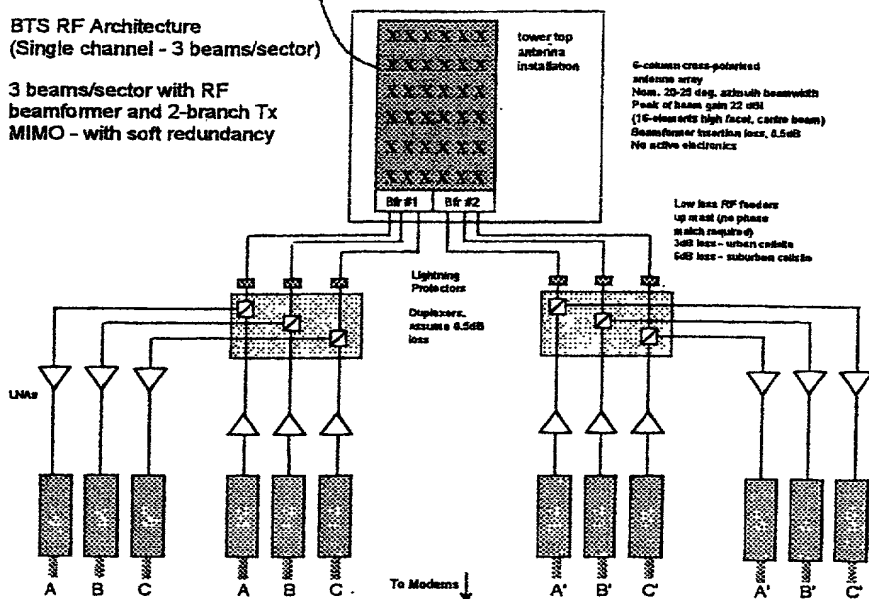


FIGURE 17

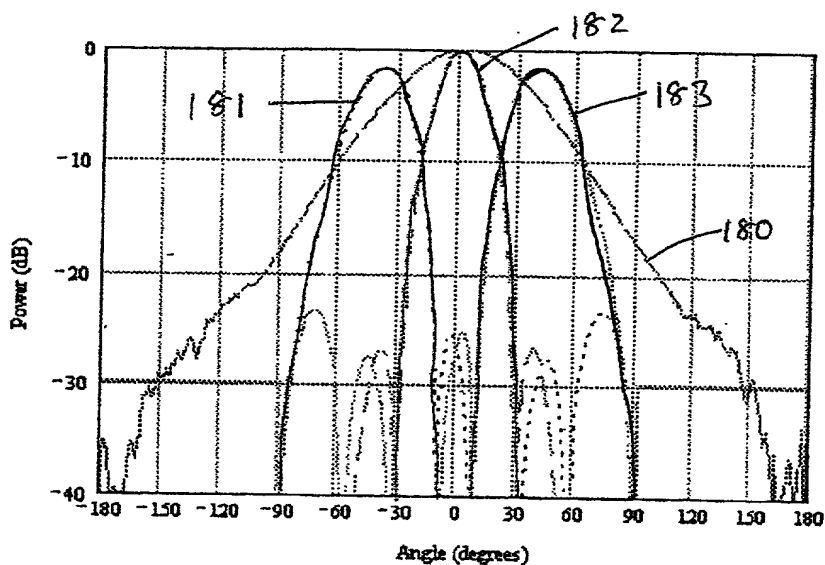
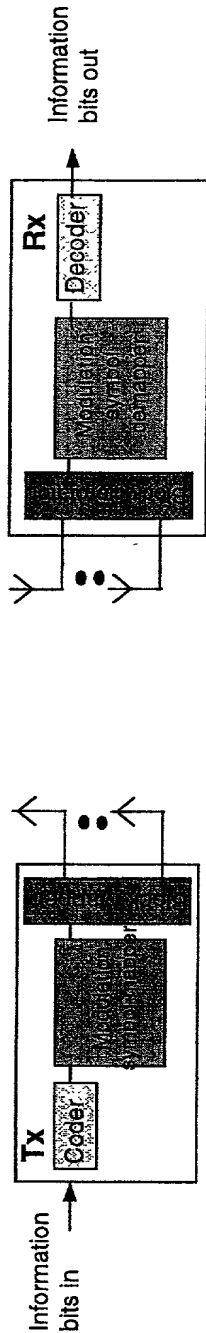


FIGURE 18.

Basic Space-Time Coding Techniques

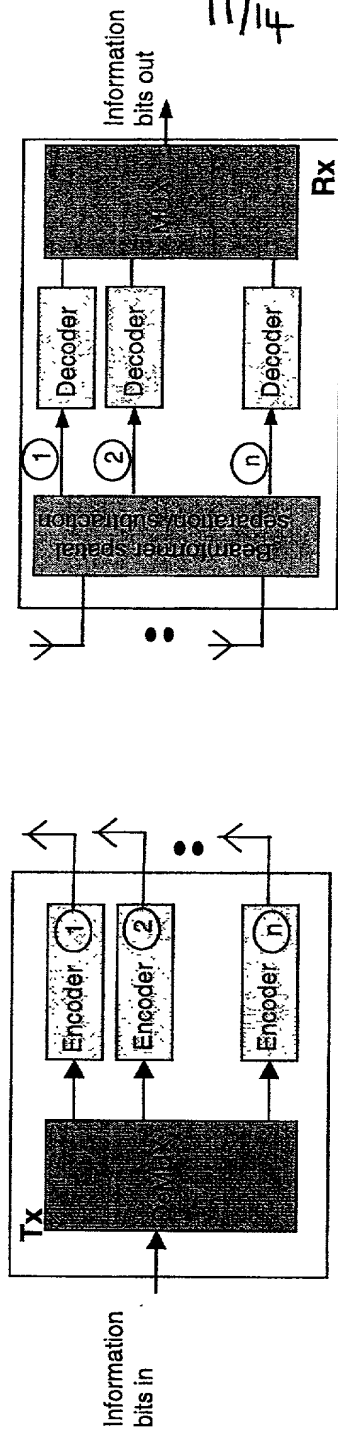
Space-Time Block Coding (STBC)

- defined for 3G



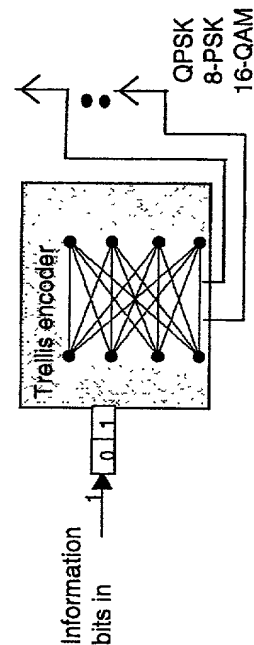
Layered Space-Time (BLAST)

- more applicable to fixed/nomadic



Space-Time Trellis Coding (STTC)

- suitable for both mobile and fixed



Log-Likelihood Ratios ('soft metrics')

Figure 19

Feedback STC - Separated Subchannels

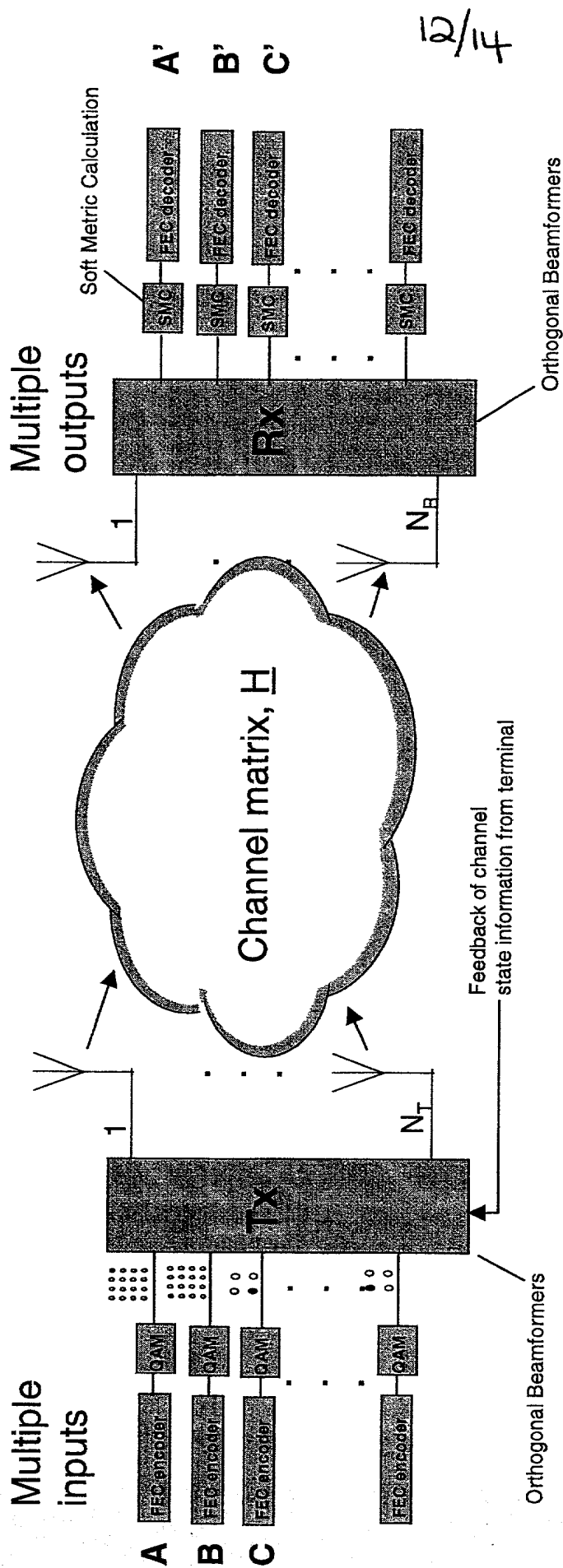
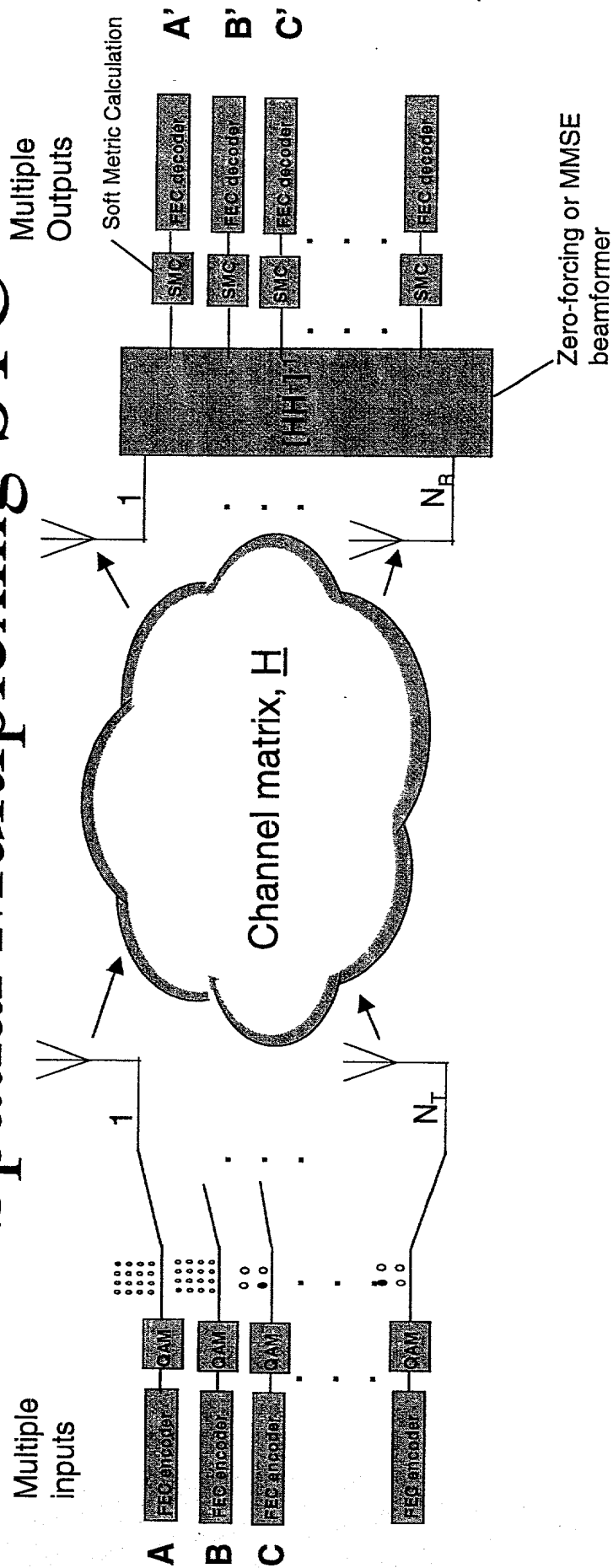


Figure 20

Spatial Multiplexing STC



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Figure 21

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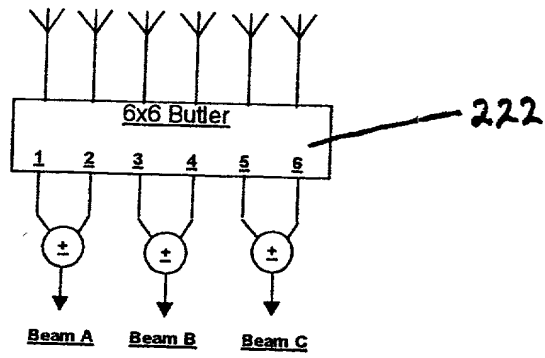


FIGURE 22